

CASE 1942.PC

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF

CAO, ET AL.

S.N. 09/932,435

FILED: 17 AUGUST, 2001

FOR: USE OF XANTHAN GUM AS A HAIR  
FIXATIVE

Group Art Unit: 1616

Examiner: GOLLAMUDI

Commissioner of Patents and Trademarks  
Washington, D.C. 20231DECLARATION UNDER RULE 132 (37 C.F.R. §1.132)

Sir:

I, Gary T. Martino, a citizen of the United States of America, currently residing at 21 Kingland Circle, Monmouth Junction, New Jersey 08852 declare as follows.

I am familiar with the issues raised in this case.

I graduated from Wagner College with a Bachelor of Science degree in Chemistry in 1981 and a Masters of Science in Organic Chemistry from Seton Hall University in 1984.

Since 1981, I have worked at National Starch and Chemical Company. I am currently the Director, Technical Service, for the Personal Care Division. In this and previous positions at the company, I have identified and developed a number of personal care products for the market, including several hair fixatives.

I am the inventor of U.S. patents and numerous non-US patents. I have published in various trade journals and have presented at trade shows and to the industry.

My experience has provided me with a strong knowledge of various cosmetic product forms, leading-edge technologies, and the whole process of a product from concept to market.

The experiments below were conducted under my supervision and guidance to demonstrate that the prior art compositions would not be suitable for fixing hair as claimed in the above-identified application.

### Materials

Formulation 17 in US Patent Number 6,017,860 (a shampoo containing 1% native xanthan gum), Example 3 in JP 11-236310 (a skin cream containing 0.3% heat treated xanthan gum), and Formulation 13 of the above-identified patent application were prepared as described.

### Testing

#### *High humidity curl retention test*

The test was conducted at 72°F (22°C) and 90% Relative Humidity over a period of 8 hours. The procedure allows for statistical analysis of formulation variables. The percentage curl retention was calculated by:  $\text{Curl Retention\%} = 100 \times (L - L_0) / (L - L_0)$ , where  $L$  = length of hair fully extended,  $L_0$  = initial curl length,  $L_t$  = curl length at a given time  $t$ .

The test was performed on 10" long x 2 gram tresses of European virgin brown hair (9 replicate tresses per sample). Cleaned wet hair tresses were combed through to remove tangles and excess water is removed. 0.5 gram of sample hair gel was applied to each tress, gently "worked into" the hair tress and combed through. Curls of hair were made using ½" diameter Teflon mandrel, placed on a tray and dried in an oven overnight. The dried curls were removed from the oven and allowed to cool to room temperature. The curls were suspended from the bound end of the tress on graduated transparent curl retention boards. An initial curl length reading was taken before placing boards and curls into the environment chamber. Then curl lengths were recorded up to 8 hours. Curl retention averages were then calculated.

### Results

The results are shown in Figure 1.

### Conclusions-

As can be seen, the prior art formulation provides high humidity curl retention of no more than 70% after 2 hours. In contrast, the compositions of the above-identified patent application provide high humidity curl retention at 2 hours of about 95%, specifically over the 80% claimed. Therefore, the formulations described in US 6017860 and JP 11-236310 are not suitable to be used as hair cosmetic compositions.

I further declare that all statements made herein of my own knowledg are true and that all statements mad on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by a fine or imprisonment or both under 1001 of Title 18 of the United States Code and such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed at Bridgewater, NJ., this 5/10/04.  
location date

Gary T. Martino  
Gary T. Martino

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**FIGURE 1**

Time Plot of Sample Averages

